Conservation Biology Lab
BIOS 322/BIOS 522
Syllabus Spring 2021; 16-weeks

Instructor information:
Instructor: Cassidy B. Johnson, Ph.D.
Office location: Anderson Biology, 104B
Office phone: 713-348-4913
Office hours: *I'm available to meet in-person or virtually on Monday and Wednesday. Please email to me to arrange a time.*
Email: cbj5145@rice.edu

Course information:
Meeting time: Fridays, 1:30PM-5:30PM
Location: Keck 105 or Harris Gully Natural Area (field adjacent to Weiss College) as noted in schedule

Textbook: No textbook will be required for this course. Required documents and readings will be provided on the course's Canvas page.

Specials materials for course: The field equipment and reference guides needed for the course will be provided. Several of the class meetings will take place outdoors and students will need to prepare appropriately (closed-toed shoes, long pants, hat, sunscreen, water bottle are encouraged).

Course overview and description: This laboratory course is designed to address an authentic, local conservation issue facing the greater Houston area. Students will be responsible for the project design, the collection and analysis of data, and the dissemination of that data using communication methods suitable for a general audience. Students enrolled in BIOS322/524 are encouraged to have previously taken or be simultaneously enrolled in BIOS323; however, some exceptions may be given on an individual basis. Conservation biology is a multidisciplinary field; therefore, students from all academic fields are welcome to participate.

Rice University's Arboretum Committee has challenged the students of BIOS 322/522 to assist in the conservation of the Harris Gully Natural Area (HGNA). The HGNA is a protected green space on Rice's campus that is also a part of the Lynn R. Lowrey Arboretum. Through this class, students have a unique opportunity to make a lasting and positive conservation impact on both the Rice campus and the greater Houston community.

Course objectives:
1. To gain an authentic experience in the design and implementation of a conservation-based project.
2. To gain familiarity with the benefits and challenges of the field of conservation and the concept of "reconciliation ecology."
3. To gain familiarity concerning the use biodiversity metrics for conservation practices and decision-making.
4. To synthesize a summary report of the research, including recommendations for continued conservation practices based on the data collected.

5. To gain experience designing effective conservation communication and/or educational strategies geared towards a non-science audience.

By the end of the course, you will be expected to:

1. Understand methods used to investigate and analyze biodiversity, with a focus on the challenges of working in urban settings.
2. Be able to synthesize scientific data into a written document, which will include an analysis and recommendations based on the data.
3. Be familiar with a diversity of methods and strategies that can be used to disseminate scientific information to a general audience.
4. Understand the role that urban conservation has in encouraging awareness in regards to habitat loss and global species decline.
5. Work collaboratively to design and implement a community-based project.

Grading overview:

Grades will be calculated out of 500 points. Grades will be distributed as follows: ≥90% A, 80-89% B, 70-79% C, 60-69% D, ≤59% F.

Assessment	Points	%
Individual	100	20
Group assignment	350	70
Class project	50	10
Total	500	100

Course assessment overview: Students will be assessed based on three, major course components: a group project, class project, and individual participation. A description of these components of this project are described below. Additional details regarding each of the assessments can be found in Canvas.

1. Individual assessment (20% grade): Individual students will be assessed based on their responses to Canvas discussions, participation in class, attendance and participation in field trip activities, and via an anonymous, peer evaluation of their group efforts. Class participation will be evaluated by attendance, active engagement with the instructor, guest lectures, and peers.

2. Group project (70% total grade): Students will work in teams to research and develop a conservation plan for the Harris Gully Natural Area. The plan will require that the team collect and use biodiversity data to design a conservation strategy for the HGNA. The data, an analysis of the data, and the conservation strategy will be complied in a written document to be submitted at the end of the semester. As a part of the group project, students will also design an education and outreach strategy to recruit volunteers to the final project work day. Each team will also add new plant species to a HGNA plant ID guide. More details regarding the requirements for the group project can be found in Canvas.

3. Course project (10% total grade): The culmination of each student's individual work and the group projects will be a conservation work day. The work day will take place the last day of class at the Harris Gully Natural area. Students will use the data they have collected and what has been learned during the semester to organize and host the work day. The work day will require that students recruit volunteers from the Rice and

Houston community. Students will receive points for the course project by assisting with the organization and participating in the work day.

BIOS 522 Graduate student projects: Graduate students will be expected to participate in the group and class projects and will also be will also be given an independent project to complete. The independent project will be additive to the group and class projects and will be based on the student's interests. The points for this independent work will be factored into the individual assessment for the course. Graduate students will meet with the instructor on the first day of class to discuss the scope of this additional project and grading rubric.

Course Schedule (subject to change): The course meets on Friday from 1:30PM to 5:30PM. We will meet in Keck 105 for lecture. The fieldwork component will take place on campus at the Harris Gully Natural Area. I will do my best to adhere to the posted schedule; however, due to the ever-changing nature of the pandemic and bad weather, I may need to modify our course meetings. I update any changes ASAP.

Date	Activity (subject to change)	HW & due dates	Location
14-Jan	Course introduction	HW reading: "Motivations for urban conservation," Biodiversity in the city, discussion in canvas	Online
21-Jan	Conversation with local experts	Due 11:59PM @ 1/20: Canvas discussion on readings	Online
28-Jan	Guest lecturer: HGNA research intern Mia Peeples (CIVE)	Choose project topic by end of class today!	Keck 105, HGNA
4-Feb	Field work day	Schedule time with Dr. Johnson to discuss project topic	HGNA
11-Feb	*SPRING RECESS - NO CLASS*		
18-Feb	**Field trip: Robert C. Stewart Park with HPARD**	Please wear clothes to get dirty in: long pants, closed-toe shoes, hat, and bring water. ***Also: you will need a mask for the van!***	*Meet at van in front of Keck* Location: 700 Town and Country Blvd #2430, Houston, TX 77024
25-Feb	**Field trip: Houston Arboretum & Nature Center**	Please wear clothes to get dirty in: long pants, closed-toe shoes, hat, and bring water. ***Also: you will need a mask for the van!***	Meet in front of Keck Location: 4501 Woodway Dr, Houston, TX 77024
4-Mar	Field work day & teams meet w/ Dr. Johnson	Due 11:59PM @ 3/3: Canvas discussion on restoration methods	HGNA
11-Mar	Field work day		HGNA
18-Mar	*SPRING BREAK - NO CLASS*		
25-Mar	Project assessment day	Outline of project submitted for evaluation @ 11:59PM tonight!/Recruitment for work day starts next week!	Keck 105, HGNA
1-Apr	Field work day		HGNA
8-Apr	Restoration project organization day		Keck 105
15-Apr	**HGNA restoration project day!**	Final project paper due by 4/22 @ 11:59PM	HGNA

Attendance:
This is a project-based course and it is my expectation that students will utilize the assigned course time wisely. I do however recognize that Friday afternoons are popular times for medical and graduate school interviews and I expect that absences will occur. Please reach out to me in advance if you know that you will be missing class for an interview. If you miss a field trip, I will assign you an activity to make up the missed field trip activity. If you will miss an independent work day, I expect that you will make arrangements with your group to make up the work (part of your grade is based on a peer evaluation). Please do not plan on missing the final, class project work day on April

15th. Your class project assessment (10% total course grade) is based entirely on your participation on this day. The only exception is for a sudden illness or accident that prevents you from attending class. In this case, I will work with students on a one-on-one basis to make up the work and time. If you have a question or concern about class attendance, please reach out to me ASAP.

Honor code: It is the expectation of this class that all work produced is unique to that student or student group. You may my posted slides and notes, and your own notes without citation. The one exception is using images or data that I have cited (in this case, please reference the information appropriately). Use of sources not specified in class, including online sources, published and unpublished research or personal communication with experts needs to be clearly stated in presentations and in written documents using appropriate MLA format (see assignment guidelines for details). If you have any questions about the Honor Code for this class, or are wondering if a certain course of action is acceptable, please send me an email. I am more than willing to help clarify and questions you may have. It is advised by the Honor Council that you keep track of emails regarding the honor code, so make sure to save this email or otherwise keep track of it.

Diversity Equity and Inclusion statement: Rice University does not discriminate on the basis of race, color, religion, sex, gender identity and expression, national origin, age, disability, sexual orientation, or veteran status. I fully support this commitment and will work to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. In this course, we share in the creation and maintenance of a positive and safe learning environment, which includes acknowledging and embracing the differences among us. I appreciate your suggestions about how to maintain a respectful environment. If you experience any type of discrimination, please contact me and/or the Office of Access, Equity and Equal Opportunity (AEEO) Equity at 713-348-6405. Additionally, please feel free to discuss with me any issues related to DEI that you feel are not being adequately addressed in this course.

To access the BioSciences DEI mission statement: https://biosciences.rice.edu/diversity-equity-and-inclusion.

Accommodations for students with disabilities: Students with disabilities also should contact Disability Support Services in Allen Center Room 111 / adarice@rice.edu / x5841 to register their disability with the University. The Disability Support Services office will provide a letter describing appropriate accommodations. I ask that any student with a documented disability needing academic adjustments or accommodations to please to speak with me during the first two weeks of class. If you require refinement of your accommodations during the semester, please do not hesitate to contact me. All discussions will remain confidential.

Psychiatric/ mental health disabilities: Students with psychiatric disabilities are entitled to reasonable academic accommodations as provided by the American Disabilities Act (ADA) of 1990 and 2008 amendments. You do not need to have had your disability diagnosed before your arrival at Rice. To receive accommodations, you must register with the Disability Support Services (DSS) Office in the Allen Center. A Rice student requesting accommodations must self-identify to the DSS office and provide recent documentation of their disability. This documentation is used to establish the Rice student as an individual with a disability, and provides rationale for reasonable

accommodations. This process requires evaluation and documentation so do not wait until the last minute, speak with your healthcare professional or consult with the Student Wellbeing and Counseling Center (https://wellbeing.rice.edu). You will not need to disclose your specific disability with me, but documentation is required to secure accommodations.

***Gender Diversity statement*:** Everyone has the right to be addressed by the name and pronouns that correspond to their gender identity, including non-binary pronouns, for example: they/them/theirs, ze/zir/zirs, etc. Rosters do not list gender or pronouns so you may list the pronouns that you would like for me to use (no one is obligated to do this). If you use a chosen name, also please let me know. Chosen names and pronouns are to be respected at all times in the classroom. Mistakes in addressing one another may happen, so I encourage an environment of openness to correction and learning. Chosen name and personal pronouns may evolve over time, so if at any point during the semester you would like to be addressed differently, please let me know.

Land Acknowledgement: The state of Texas, where Rice University is located, has been a meeting and trading location for Indigenous tribes including the Apache, Caddo, Comanche, Kiowa, and Wichita. Three federally recognized tribes and two state-recognized tribes currently reside in Texas. The land that Rice University occupies is the ancestral home of the Karankawa, Atakapa-Ishak, and Sana peoples. A painful history of settler colonialism, genocide, and forced migration and assimilation occurred here, and the descendants of these communities need to be recognized and included in the history of our community.

Basic Needs Security Statement: Students who are having trouble making ends meet are encouraged to find support through the Access and Opportunity Portal (https://aop.rice.edu) and resources provided by the Office of Student Success Initiatives (https://success.rice.edu). College Magisters may be able to provide additional assistance. For graduate students, the Graduate Student Association (https://gsa.rice.edu/funding) and the Graduate and Postdoctoral Studies office (https://graduate.rice.edu/academics/finance/moseleyadams) have additional resources that may be of assistance.

Title IX Notification*:* Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office (https://safe.rice.edu). ***Students should be aware when seeking support on campus that most employees, including myself, as the instructor/TA, are required by Title IX to disclose all incidents of non- consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs***. For more information, please visit safe.rice.edu or email titleixsupport@rice.edu.

COVID considerations: Students are expected to follow all of the current university guidelines regarding COVID.

Religious Accommodations: Both Rice's policy of non-discrimination on the basis of religion and our core values of diversity and inclusion require instructors to make reasonable accommodations to help students avoid negative academic consequences when their religious obligations conflict with academic requirements. Every reasonable

effort should be made to allow members of the university community to observe their religious holidays without jeopardizing the fulfillment of their academic obligations. Absence from classes or examinations for religious reasons does not relieve students from responsibility for any part of the course work required during the period of absence. Please provide me with reasonable notice of the dates of religious holidays on which you will be absent so I can work with you.